NOMENCLATURAL NOTES ON THE LAURACEAE OF THE LESSER ANTILLES

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The following notes were derived from a study of living plants in the West Indies, from herbarium specimens, and from the extensive literature on the family Lauraceae. They will be the basis of a treatment of the family in the pertinent volume of the *Flora of the Lesser Antilles,* now in preparation.

Beilschmiedia Nees

Beilschmiedia pendula (Sw.) Hemsley, Biol. Centr.-Am. **3:** 70. 1887.

Kostermans (1964), Imchanitzkaja (1974), and others credit the combination to Bentham or to Bentham and Hooker (1880, p. 152), where the transfer of taxa was suggested but the combination was not in fact made. Imchanitzkaja (1974, p. 195) has designated the lectotype as *Swartz s.n.* (s), from Jamaica.

Cinnamomum Schaeffer

Cinnamomum Schaeffer (Bot. Exped. 74. 1760) is a *nomen conservandum.* The original spelling of the generic name was *Cin̄amomum,* with the macron presumably indicating extra length, so the conserved spelling is *Cinnamomum.* The type species, published in Blume (Bijdr. Fl. Nederl. Indië. 11^{e} stuk. 568. 1826), is indicated as "*C. zeylanicum* Blume (*Laurus cinnamomum* Linnaeus)." This is antedated by *C. verum* Bercht. & Presl (Prir. Rostlin. **2:** 36, 37–44. *t. 7.* 1825). The epithet *C. zeylanicum* Breyne is occasionally used in the literature and in some recent annotations. The reference, "Breynius in Ephem. Ac. Nat. Cur. Annua 4: 139, 140. 1676," appears to be pre-Linnaean and so the name is invalid.

Kostermans has combined the genera *Cinnamomum* and *Phoebe* and has made most of the necessary combinations in a paper entitled "The New World Species of *Cinnamomum* Trew" (1961). In this action he has been followed by Imchanitzkaja (1974) and Adams (1972), but not by Allen (1964), Bernardi (1962), or Philcox (1978). I will accept Kostermans's view for the *Flora of the Lesser Antilles.*

Cinnamomum elongatum (Nees) Kosterm. Reinwardtia **8**(10): 21. 1961.

Phoebe elongata Nees emend. Mez, Jahrb. Bot. Gart. Berlin **5:** 203. 1889. Type: without locality, *Vahl,* in Herb. Willd. *7780, folio 2.*

?*Phoebe cubensis* Nees, Syst. Laur. 120. 1836. Type: Cuba, *Poeppig s.n.* (b).

Cinnamomum cubensis (Nees) Kosterm. Reinwardtia **8**(10): 21. 1961.

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Cinnamomum elongatum and *C. cubensis* have had varying treatments since the original publication, and the bibliographic citations have varied as well. Britton and Wilson (1924, p. 319) apparently were the first authors to combine the two species when they accepted *Phoebe elongata* (Vahl) Nees and placed *P. cubensis* Nees in synonymy; they have been followed by Brooks (1933, p. 225). Most recently, Imchanitzkaja (1974, p. 204) reversed the status of the two names by accepting *P. cubensis* and considering *P. elongata* as a synonym. León and Alain (1951, pp. 186, 187) and Fournet (1978, p. 484) accepted both species, as did Kostermans (1961, p. 21) when he made the new combinations in *Cinnamomum.*

In the original description of *Phoebe elongata,* Nees (1836, p. 116) cited "*Laurus elongata* . . . Vahl in Herb. Willd. No. 7780. Fol. 1, Poeppig 1311." The Poeppig specimen was from Peru and was excluded by Mez (1889), who referred it to *P. triplinervis* (Ruiz & Pavon) Mez (1889, p. 211). This, in effect, would typify *P. elongata* Nees by the remaining specimen cited by Nees, "Vahl in Herb. Willd. 7780. Fol. 1." However, Mez cited this under *P. montana* (Sw.) Griseb., while he typified *P. elongata* Nees emend. Mez by "Vahl in herb. Willd. n. 7780. fol. 2 (nec 1)." The specific characters are not readily identifiable in the microfiche of the Willdenow herbarium, and the correct typification depends on a reexamination of the herbarium material.

Roig and Acuña (in León & Alain, 1951, p. 186) listed "*Laurus elongata* Vahl" as a basionym of *Phoebe elongata.* Kostermans (1964, p. 293) listed *Cinnamomum elongatum* (Vahl ex Nees) Kostermans, with a basionym of "*Phoebe elongata* Vahl ex Nees," although elsewhere (*ibid.*, p. 1276) he also cited *P. elongata* (Vahl) Nees. For *Laurus elongata* Kostermans (*ibid.*, p. 615) cited Vahl ex West, with the reference "Beskriv. af St. Croix 282. 1793." Although Vahl is generally credited with the names used in West's publication, this time the specific name "longifolia" was used without any description, and the name "elongata" did not appear. Vahl's name is not appropriate to the bibliographic reference.

Mez (1889, pp. 182, 202, 203) considered *Phoebe cubensis,* number 26 in his key, as a collective species. *Phoebe elongata* was listed as number 26a but was not included in the key.

Britton and Wilson were the first to combine the taxa, and the accepted name should be *Cinnamomum elongatum* (Nees emend. Mez) Kosterm.

Cinnamomum falcatum (Mez) Howard, comb. nov.

Ocotea? falcata Mez, Jahrb. Bot. Gart. Berlin **5:** 388. 1889. TYPE: Guadeloupe, Duchassaing *s.n.* (B).

Phoebe falcata (Mez) Mez in Urban, Symb. Antill. **2:** 251. 1900, not Miq. Fl. Indiae Batavae **1:** 912. 1858.

Cinnamomum falcatifolium Kosterm. Reinwardtia **8**(10): 21. 1961.

Kostermans recognized that Mez's transfer of *Ocotea falcata* to *Phoebe* was invalid, as a later homonym, but he unnecessarily created a new name in *Cinnamomum.* The transfer of *Ocotea? falcata* Mez as the correct basionym is in order.

Endlicheria Nees

Endlicheria sericea Nees, Linnaea **8:** 38. 1833.

Kostermans (1964, p. 507) and others cited the authority for this binomial as (Hooker ex Nees) Nees and gave *Laurus sericea* Hooker ex Nees as the basionym. In fact, Nees (1836, p. 369) listed as a synonym the unpublished herbarium name attributed to "Hooker in Herb. Arnott." The exclusion of the parenthetical reference is important since the implied basionym would be invalid, having been antedated by *L. sericea* Blume (1826).

Endlicheria sericea Nees is typified by "Sieber Fl. Ins. Trinit. 175" (B), which was probably from Guadeloupe (Brooks, 1933, p. 227). The genus and species are not included in the Trinidad flora by Philcox (1978).

Endlicheria guadaloupensis Mez, Jahrb. Bot. Gart. Berlin **5:** 124. 1889.

Kostermans (1937, p. 547) had placed this species in the synonymy of *Endlicheria sericea* Nees. Fournet (1978, p. 481) thought the species had been overlooked by recent workers. He recognized the taxon, known only from the original collections by Duchassaing, as having larger leaves than *E. sericea.* Abundant recent material clearly shows that Kostermans's conclusion was correct.

Laurus L.

Laurus geminiflora Ham. Prodr. Pl. Indiae Occ. 37. 1825.

Hamilton published a brief, generalized description and stated that he had seen living material on St. Kitts and Jamaica and herbarium material in the collections of Professor Desvaux. However, no specimen has been located in Paris, and the treatment of the Hamilton binomial in the literature is confusing.

Meissner (1864, p. 102) assigned the Hamilton name, with a question mark, to the synonymy of *Goeppertia geminiflora* Meissner. He cited material collected by Martin in British Guiana and by Guillemin (*231*) in Rio de Janeiro, Brazil. One staminate specimen was attributed to the herbarium of Kunth and one to that of de Candolle. Meissner, however, did not cite material by Hamilton or Desvaux. I assume, therefore, that the specific epithet "*geminiflora* Meissn." is a new name and not a transfer or representative of a basionym.

In 1889 Mez (pp. 78, 79) established the new genus *Systemonodaphne* Mez, and the single species, *S. geminiflora* (Meissner) Mez, is based in part (i.e., *Martin s.n.*) on *Goeppertia geminiflora* Meissner. The collection *Martin 45* is identified, but not as to location within the several herbaria cited. *Leprieur 223* and *Poiteau 63, 64,* from British Guiana, were also cited. *Laurus geminiflora* Ham. is cited in synonymy with a question mark.

Kostermans (1936, pp. 754, 755) described the new genus *Phyllostemonodaphne.* He based the single species, *P. geminiflora* (Meissner) Kosterm., on *Goeppertia geminiflora* Meissner, with the type specimen designated as *Guillemin 231.* Kostermans (1936, p. 756) considered *Martin 45* to represent the monotypic *Systemonodaphne* of Mez, which he felt should be renamed *S. mezii* Kosterm. He concluded, "*Laurus geminiflora* Desvaux in Hamilton, Prodr. Fl. Ind. Occ. (1825) p. 37 does, according to the description, not correspond either with *Phyllostemonodaphne* or with *Systemonodaphne.*" However, in 1964 Kostermans (p. 527) listed "*Goeppertia geminiflora* (Desv.) Meissn." and stated that the basionym is *Laurus geminiflora* Desv. As indicated above, Kostermans must be in error, or the nomenclature of both *Systemonodaphne* and *Phyllostemonodaphne* must be reconsidered. *Laurus geminiflora* Ham. remains an unplaced name of the Antillean flora until herbarium material can be located.

Litsea Lam.

Duss (1897, p. 306) listed "*Tetranthera laurifolia* Jacq., *Litsea sebifera* Pers." as cultivated in the botanical garden at St. Pierre, Martinique, and represented by his own collection *343.* Fournet (1978, p. 499) repeated the reference but did not indicate if the taxon was still under cultivation. Philcox (1978, p. 563) stated that "a specimen of the East Indian *Litsea sebifera* Juss. presumably from the island of Trinidad is located in the National Herbarium at St. Augustine, Herb. Trin. *n. 979,* but no further data are available." Two specimens of Duss (*348, 4094,* and *348, 4095,* both at NY), representing material once cultivated at St. Pierre and noted as escaped, were originally named *Tetranthera laurifolia* Roxb. and are annotated as *Litsea glutinosa* (Lour.) Roxb. The material available can not be properly placed at this time.

Nectandra Rolander and **Ocotea** Aublet

In *The Bahama Flora* (1920), Britton and Millspaugh accepted the genus *Ocotea* Aublet and listed *Nectandra* Rolander in synonymy. Only a single species, *O. coriacea* (Sw.) Britton, was involved, although the three specific names cited in synonymy were in three genera. In his subsequent work with other coauthors on the floras of Cuba, Puerto Rico, the Virgin Islands, and Trinidad, Britton recognized the two genera *Ocotea* and *Nectandra.*

In 1957 Kostermans described the genera and subgenera of the Lauraceae that he proposed to accept in a revision of the family. He recognized *Ocotea* Aublet with three subgenera, one of them subg. *Nectandra* (Rolander) Kosterm. Kostermans noted that the sexual condition of the flower (perfect or unisexual), the attitude of the tepals at anthesis, and the arrangement of the pollen sacs of the anthers (at two levels or in an arcuate row) were not satisfactory generic characters used either singly or in combination. In fact, he found no fruiting or vegetative characters useful in distinguishing the genera.

There has been no consensus to follow Kostermans's action. In studying the Lauraceae of Venezuela, Bernardi (1962) concluded that although the separation of some species of *Ocotea* and *Nectandra* is very difficult, combining the genera did not simplify the problems of nomenclature or the determination of the species. Actually, he found it relatively easy to differentiate between them in the field by quickly glancing at the stamens. Bernardi continued to recognize both *Nectandra* and *Ocotea* in three papers published in 1967 in which he transferred several species from one genus to the other. Allen

(1964, p. 64) maintained two genera and stated, "Eventually, a detailed, monographic study will be made of this group. Possibly future examination of herbarium material not now available, together with field observations and anatomical study, may show them to represent opposite extremes of a single variable genus. Until such time, despite an overlapping of characteristics in some plants, i.e., the occasional indeterminate position of the anther cells which appear to be in obscure arc-formation or approach superposition on two distinct planes, they are considered as separate genera." Allen (1966, p. 226) wrote, "Subsequently Kostermans has seen fit to combine all three genera, *Ocotea, Nectandra* and *Pleurothyrium,* under *Ocotea.* If we accept this reduction the entire taxonomic fabric of the Lauraceae will be further imperiled; for elsewhere in the family there are several instances where reasons equally strong can be found for combining genera hitherto maintained as distinct entities by all students of the Lauraceae."

Most recently, Imchanitzkaja (1974) recognized both *Nectandra* and *Ocotea* and, after reviewing the reaction to Kostermans's lumping, commented (translation by author): "In this work we consider *Nectandra* as a separate genus, although in the future, with the accumulation of more observations, possibly it will be united with *Ocotea.* At this point, we do not have enough material to decide the question of *Nectandra*'s taxonomic position in view of the small amount of work done on the species of *Nectandra* and *Ocotea,* and the absence of essential research on their morphology, anatomy, and embryology."

In reality, the more practical approach for a limited flora such as that of the Lesser Antilles is to unite the genera. The characteristics that have been used to separate them are found only in some of the functional stamens and even then are often difficult to interpret. They are not useful in the field and are more often than not of little value with most herbarium specimens. For many years Dr. C. K. Allen drew meticulous sketches of floral dissections of the Lauraceae she examined. These sketches may be annotated once or several times with the generic names *Ocotea, Nectandra,* and/or *Phoebe,* with or without question marks, indicating that even after a lifetime of work she was unable to establish the genus for a particular specimen. Bernardi (in Kostermans, 1964, p. viii) referred to the many species transfers he contemplated and perhaps completed (Bernardi, 1967a, 1967b, 1967c). The transfer of species from *Ocotea* to *Nectandra* and vice versa by a single author or successive authors clearly indicates uncertainty among the authorities concerning the generic assignment. It suggests that the designation of the genus has often been based on the particular flower that was dissected.

Nees (1836) and Mez (1889), the early monographers on the family, attempted to solve the problem by recognizing a larger number of genera, even suggesting that dioecism was in itself a reliable character at the generic level or for a major division within a genus. In practical work with herbarium specimens, it is difficult to determine if a stamen is functional and producing pollen, or if the pistil is fertile or sterile. Personal observations made in the field suggest that a polygamodioecious condition is common. Some species described as having perfect flowers were seen to produce only one or a very few fruits per panicle, and such sexual differences of perfect and functionally unisexual flowers can be observed in the inflorescences. A full understanding of these structural differences, and of the localized production of fruit or the heavy, early fall of flowers, will require additional special study.

Some plants of the Lauraceae in the West Indies produce aberrant or monstrous inflorescences and abnormal flowers. The cause of these aberrant forms is not understood, nor is the nature of their development, or their consistency or production on a plant in one season or in successive years. The aberrant inflorescences and flowers seem to occur regularly in some species and never in others. The aberrant inflorescence may be diffuse and may have many small leaves or a superfluity of bracts.

In other plants, by contrast, the aberrant inflorescence may be congested with an abnormal number of bracts, flowers, or floral parts. Since such specimens are gathered in flower, there is no information available on the production of fruit by these abnormal flowers, and no records can be found to indicate if a plant that produces a monstrous inflorescence one year may do the same again. The leaves of stems associated with monstrous inflorescences may also vary from the normal, being larger, thicker, often toothed or lobed, and sometimes with altered venation. Several specimens assigned to *Ocotea eggersiana* show pinnate venation of the stem leaves, but plinervy on the leaves from what may be an abnormal inflorescence.

The characteristic of domatia in the axils of secondary veins has also been used in the classification of species. Present observations from dried specimens suggest that this characteristic is also unreliable. The domatia may be present or absent, lebetiform or marsupiform, and glabrous or barbate on the same leaf or adjacent leaves. A special study is also needed to compare the domatia in fresh and dried leaves.

Although fruit size and shape have been used in descriptions, these characters have not been evaluated satisfactorily by field studies. The fruiting pedicel of *Ocotea* is brightly colored (usually red), and the mature fruit is dark purple or black. The fruit is variously referred to as a drupe or a berry. Although most mature fruits appear to be slightly succulent, there is no indication of a hard endocarp; thus, their classification as one-seeded berries seems more appropriate.

When dry, the fruiting pedicel may be described as terete or clavate, expanding gradually or abruptly into a flat surface, or into a cupular one that is crateriform, cyathiform, or urceolate, with the margin smooth, irregular, or toothed, and the surface smooth or warty. Photographs of fruits taken in the field can be useful in comparing the shape of fresh and dried fruits or pedicels. The nature and amount of variation resulting from drying are not fully appreciated; therefore, the value of pedicel shape in dried specimens remains to be determined for nearly all species from the Lesser Antilles.

The following species, considered in alphabetical order, have been reported from the Lesser Antilles generally either as *Ocotea* or *Nectandra* and merit some comment.

Ocotea alpina R. A. Howard, sp. nov.

Arbor parva 1–3 m. alta, gemmis lanceolato-ellipsoideis sericeo-pubescentibus. Folia alternata, ad apicem ramulorum aliquantum congesta, petiolis 7–13 mm. longis, canaliculatis, laminis in sicco supra nigro-brunneis subtus pallidioribus, utrinque glabris, minute reticulato-venosis, oblongis, ellipticis vel ovato-lanceolatis, 9–12 cm. longis et 3.5–5 cm. latis, ad basin rotundis, ad apicem acutis vel acuminatis, penninervis, nervis ad 6-paribus. Inflorescentia paniculata, ad 7 cm. longa, minute griseo-adpresso-pubescens, pedunculo ad 3 cm. longo. Florum gemmae ad 2.5 mm. longae, perianthio companulato, leviter pubescenti, stamina ser. I et II antheris 1 mm. longis, ovatis vel rectangularibus, filamentis brevibus, pubescentibus, ser. III antheris 1.8 mm. longis, ovatis obtusis biglandulosis, glandulis brevibus filamentis aequalibus; staminodis 0.8 mm. longis triangularibus, filamentis pubescentibus; gynoecio 1.8 mm. longo, ovario ellipsoideo glabro stylo crasso longiore, stigmate dilatato vel gynoecio nullo. Fructus ellipsoideus, ad 2.5 cm. × 1.2 cm., niger, cupula urceolata, 12 mm. diametro et 5–7 mm. alta, margine plana, pedicello incrassato ad 8 mm. longo, 4 mm. crasso.

TYPE: Guadeloupe, Bois de Nez Cassé, *Duss 3949* (holotype, NY; isotype, GH).

ADDITIONAL COLLECTIONS. **St. Kitts:** Mt. Misery, *J. S. Beard 306* (A, NY), *G. R. Proctor 19207* (A), *19626* (A); Dos d'Ans Pond, *R. A. Howard 11976* (A); Camps Mt., *R. A. Howard & L. I. Nevling 16864* (A); Molyneaux Estate, *Britton & Cowell 696* (NY). **Nevis:** Nevis Peak, *J. S. Beard 457* (NY). **Martinique:** San Martin on Mt. Pelée, *Duss 4411* (NY).

Flowering material of this species has previously been determined as *Ocotea jacquinii* and *Phoebe falcata.* It is clearly distinct from the former in the smaller fruits and glabrous leaves and differs from the latter in the urceolate cupule and in staminal characters.

The specimens *Beard 457, Britton & Cowell 696,* and *Howard & Nevling 16864* are aberrant in having galled flowers in monstrous inflorescences, and stem leaves abnormal in size, shape, and thickness. The galled flowers are aggregated into bracteate clusters and have the perianth parts much thickened. Accessory sterile stamens appear to be formed in all three series in some flowers.

This species occurs in mist forests above 800 meters altitude.

Nectandra antillana Meissner in DC. Prodr. **15**(1): 153. 1864.

In the original description several collections were cited from Cuba, Hispaniola, and Jamaica, in addition to *Belanger 160,* from Martinique, and *Imray s.n.,* from Dominica. Imchanitzkaja (1974, p. 203) stated the lectotype to be "Jamaica, Red Hills, Río Cobre, *Sloane* (BM) (Sloane, 1725, Nat. Hist. Jamaicae 2: 21, tab. 165)."

Bernardi (1962, p. 190, esp. note no. 1) noted that material of this taxon had been called *Nectandra globosa* (Aublet) Mez, *N. pisi* Miq., or *N. glabrescens* Bentham. In 1973 Barneby and Allen annotated material of *N. antillana* as *N. glabrescens* Bentham, and specimens of *N. krugii* Mez as *N.*

globosa (Aublet) Mez. Imchanitzkaja (1974) did not discuss any of these names, but Adams (1972, p. 283) commented under *N. antillana*, "In the strict sense confined to the Greater Antilles and St. Thomas, perhaps also extending to Guadeloupe. *N. globosa* (Aublet) Mez replaces this species in continental America."

Kostermans (1936, pp. 14–19), Bernardi (1962, p. 120), and Allen (1964, p. 118) have discussed this nomenclatural tangle. Although the complete problem will not be solved by my comments, an observation is needed. Both *Nectandra globosa* (Aublet) Mez and *Ocotea globosa* (Aublet) Schlecht. & Cham. appear to be based on *Laurus globosa* Aublet (Hist. Pl. Guiane Fr. 364. 1775). *Laurus globosa* Aublet bears a brief description, "fructu nigro, calice rubente," and reference to "Borbonia fructu globoso, nigro, calice e viridi rubente, Plum. Gen. 4." Lamarck (Encycl. **3:** 451. 1789) cited Aublet and added descriptive material and the references "Plumier Mss. vol. 6, t. 99" and "Sloane Hist. 2 p. 21 t. 166 f. 1." The Sloane reference is to *Trichilia moschata* Sw. (Meliaceae), according to Fawcett and Rendle (Fl. Jam. **4**(2): 211. 1920). The Plumier manuscript reference is important. Kostermans (1936, p. 20) equated Plumier Gen. 4 with "Plumier's plant, figured in Descr. pl. Amer. ed. Burm. (1775) p. 50, t. 60" when he noted that, according to Urban (Repert. Sp. Nov. Beih. **5:** 49. 1920), *plate 60* is identical with *N. antillana* Meissner. He thus came to the conclusion that while the Burman edition does repeat the Plumier *Nova Plantarum* reference and the polynomial, there are, in addition, three synonyms (from Catesby, from Clayton, and from Linnaeus's *Hortus Cliffortianus* and *Species Plantarum*), all of which are today referred to *Persea borbonia* (L.) Sprengel. The illustration (*t. 60*), although crude, is *Nectandra antillana* Meissner, not *Persea borbonia* (L.) Sprengel. Kostermans did not indicate that Urban had made reference to Plumier Mss. Vol. 6, *t. 99* (Repert. Sp. Nov. Beih. **5:** 112. 1920).

The correct name for *Nectandra antillana* Meissner of the Greater Antilles is *Ocotea globosa* (Aublet) Schlecht. & Cham. Despite the citations of Meissner (1864) and Mez (1889) and the general reports of Imchanitzkaja (1974) and Fournet (1978), I have seen no specimens from the Lesser Antilles that should be referred to this species. Herbarium material previously identified as *N. antillana* has proven to be *O. membranacea* (Sw.) Howard. Barneby and Allen's annotations of *N. krugii* Mez as *N. globosa* (Aublet) Mez are not accepted.

Ocotea cernua (Nees) Mez, Mitt. Bot. Vereins Kreis Freiburg **47, 48:** 422. 1888.

Mez published this combination one year preceding his larger paper (1889) that is usually cited as the bibliographic reference. Mez referred only to "Sieber fl. mixt. No. 385," but this can not be regarded as lectotypification since Nees (1836, p. 424) did not cite such a number among the syntypes mentioned in the original description of *Oreodaphne cernua* Nees. Typification of this species requires further study.

Ocotea clavigera Mez, Jahrb. Bot. Gart. Berlin **5:** 239. 1889, Bot. Jahrb. **30**(Beibl. 67): 18. 1901.

Originally Duchassaing and l'Herminier collections from Guadeloupe were cited as in the Berlin and the Barbey-Boissier herbaria. No lectotype has been chosen, and the species is referred to the synonymy of *Ocotea imrayana* Mez.

Ocotea dominicana (Meissner) Howard, comb. nov.

Oreodaphne? dominicana Meissner in DC. Prodr. **15**(1): 139. 1864.
Nectandra dominicana (Meissner) Mez, Jahrb. Bot. Gart. Berlin **5:** 399. 1889.

Syntypes *Imray 173* and *213* were originally cited, and no lectotype has been chosen. The collection *Sieber 229,* from Trinidad, cited by Mez (1889, p. 400) must have a mixed label and must have originated in Guadeloupe (Brooks, 1933, p. 227).

Recent collections have shown that two sizes of leaves are found in this species. Small leaves 8–17 cm. long are usually associated with flowering specimens. Sterile collections or those with detached fruits may have leaves 25–39 cm. long. Field observations on the growth habits of this taxon are needed.

Ocotea dussii Mez, Bull. Herb. Boiss. II. **5:** 241. 1905.

In the original description three collections by Duss (*3888, 4033,* and *4037*) in the herbarium of Krug and Urban (B) were cited. A lectotype should be chosen if the original material still exists at Berlin. I have not seen material of *Duss 3888,* but specimens in other herbaria may bear the numbers *4033, 4037* or *4037, 4033* on one label. I suspect that originally *Duss 4033* was a collection in fruit, and *4037* a collection in staminate flower. Unfortunately, several sheets of *Duss 4037, 4033*—as well as *Duss 2221* and *2221, 3928*—as mounted contain portions of *Ocotea dussii* and of *O. eggersiana,* either as branches or with fruits mixed in the packets. I have found no satisfactory characters for separating the sterile or flowering material currently available of *O. dussii* and *O. eggersiana.* The fruiting cupule of *O. dussii* is flattened or at most 1 mm. deep, and the berries are 2.5 cm. long and 1.5 cm. in diameter. By contrast, *O. eggersiana* has a cupule with an orifice of 5 mm. and a depth of 5 mm. The berries are retained within the cupule and, although immature in all specimens seen, probably will not exceed 1 cm. in length. The choice of a lectotype will be difficult due to the frequent mixture of material.

Ocotea eggersiana Mez, Jahrb. Bot. Gart. Berlin **5:** 363. 1889.

In the original description Mez cited nine collections from four islands represented in eight herbaria, in addition to "*Nectandra exaltata* Griseb. Fl. Brit. W. Ind. 281 in part" for an Imray collection from Dominica. No lectotype was chosen, and a monographer must assemble the material for proper identification of the mixed collections. Since the species honors Baron von Eggers, it is possible that *Eggers 657* or *988* from Dominica would be a logical choice. However, Eggers collections from Dominica were few, and they were not widely distributed.

Fruiting material was not known at the time of the original publication, and the first description appears to be that supplied by Duss (1897, p. 303) for his collections *2220* and *124*, from Guadeloupe and Martinique, respectively. Possible lectotypification is further complicated by the fact that the species are distinguishable in fruit, but only with difficulty in flower; many collections apparently were mixed in the distribution of duplicates.

Duss (1897) misspelled the specific name as "eggersii" in the text and as "egersii" in the index.

Ocotea l'herminieri Mez (Jahrb. Bot. Gart. Berlin **5:** 273. 1889), known only from the original collection, may be referred to synonymy here.

Nectandra exaltata (Sw.) Griseb. Fl. Brit. W. Indian Is. 281. 1860.

The apparent basionym, *Laurus exaltata* Sw. (Prodr. 65. 1788; Fl. Ind. Occ. **2:** 702. 1800), concerns material from Jamaica. A collector was not cited. Fawcett and Rendle (1914, p. 217) indicated that they had seen a Swartz collection, and they listed *L. exaltata* Sw. in the synonymy of *Nectandra sanguinea* Rolander ex Rottb., now considered to be a species from Surinam. Adams (1978, p. 284) referred "*N. sanguinea* of F. & R. (1914)" to the synonymy of *N. coriacea.* An examination of Swartz's specimens labeled *N. exaltata* in Stockholm and at the British Museum is necessary to settle this problem. Recently, G. R. Proctor has collected material in Jamaica that appears to represent *N. exaltata* as described by Swartz and that seems to be distinct from both *N. sanguinea* and *N. coriacea.*

Nectandra exaltata (Sw.) Griseb. is not represented in the Lesser Antilles. The Imray collection from Dominica cited by Grisebach (1860, p. 281) is *Ocotea eggersiana* Mez.

Mez (1889, p. 456) accepted "*Nectandra exaltata* Gris. (e.p.) Cat. Cub. p. 111 (nec in fl. Br. W. I. Isl. p. 281)" and cited only two collections of Wright from Cuba (*356* (= *2588*) and *1076* (= *2587*)). Apparently Britton was aware of this emended usage by Mez, for Roig and Acuña credited Britton with the new name *N. earlei* Britton ex Roig & Acuña (Rev. Soc. Cuba Bot. **6:** 17. 1949), which must have been obtained from an herbarium annotation. Grisebach (Catal. Pl. Cubens. 111. 1866) cited *N. boniato* Rich. (in Sagra, Cuba Fanerog. ed. 2. **2:** 188. 1859) in synonymy, as did Roig and Acuña. This would appear to be the epithet to be used, rather than the new "earlei" proposed. Kostermans (1964, p. 981) did not explain his parenthetical comment "=Sapotaceae" following the entry of *N. boniato.* Nothing in any of the references given supports this conclusion. No specimens are cited, however, so the typification of *N. boniato* Rich. depends on a search for material from Guanimar, Cuba, in the Paris herbarium.

Imchanitzkaja (1974, p. 204) designated "no. *9616,* Earle (NY, phototypus sv)" as the type of "*Nectandra earlei* Britt. 1949, in Roig y Acuña, l.c.: 17; id. 1951, l.c.: 190." There is no reference to Britton (1949) in the bibliography given, and Britton died in 1934. In the herbarium of the New York Botanical Garden there are two collections numbered *9616* made by N. L. Britton, E. G. Britton, and J. F. Cowell on February 26 and 27, 1911, that bear the herbarium name *N. earlei* Britton. However, if this is a new name for *N. exaltata* Griseb., the type should be selected from one of the two Charles Wright collections that Grisebach cited.

Ocotea floribunda (Sw.) Mez, Jahrb. Bot. Gart. Berlin **5:** 325. 1889.

The collection *Duss 111* (NY) has a printed label "Herbier de la Martinique," with Martinique crossed out in pen and Antigua written in by an unknown hand. In fact, the four fragments that comprise the specimen represent *Ocotea floribunda* (Sw.) Mez, *O. imrayana* Mez, and *O. leucoxylon* (Sw.) Mez. *Ocotea floribunda* is known from other collections from Antigua, Montserrat, and Guadeloupe in the Lesser Antilles, but not from Martinique.

Ocotea foeniculacea Mez, Jahrb. Bot. Gart. Berlin **5:** 325. 1889.

Stehlé, Stehlé, and Quentin (Catal. Phanérog. Foug. **2**(3): 122. 1949) reported this species as new to the flora of the French West Indies. No specimens were cited, and the record, which cannot be verified, is questioned. Fournet (1978, p. 486) supplied a description of the taxon and reproduced the illustration originally published by Little, Woodbury, and Wadsworth (Forest Serv., U.S.D.A., Handb. 449. Trees Puerto Rico Virgin Is. *pl. 335.* 1974). The drawing is not a good representation of the species as it is known today based on material from Cuba and Puerto Rico.

Ocotea globosa (Aublet) Schlecht. & Cham. Linnaea **6:** 366. 1831.

See the entry under *Nectandra antillana* for commentary on the recent annotations of specimens as *Ocotea globosa.*

Ocotea l'herminieri Mez, Jahrb. Bot. Gart. Berlin **5:** 273. 1889.

Photographs (NY) have been seen of two sheets in the Boissier herbarium studied by Allen. One (NY Neg. 8476) was labeled "isolectotype" in 1970 and appears to have a gall-infected inflorescence. Mez reported the flowers to be perfect, but a drawing of a dissection shows an abortive, pubescent pistil. No recent collections have been associated with this species, which may be referable to *O. eggersiana.*

Ocotea imrayana Mez, Jahrb. Bot. Gart. Berlin **5:** 274. 1889.

A lectotype should be chosen from the collections of *Imray 149* and *335,* cited by Mez from Goettingen and Kew. A number of Duss collections from Guadeloupe and Martinique were labeled "*Nectandra imrayana* Mez," an unpublished name, indicative of the generic problem involved.

Oreodaphne jacquinii Meissner in DC. Prodr. **15**(1): 114. 1864.

In the original description Meissner (1864, p. 114) cited "in Martinicâ (Aquart!). *Laurus martinicensis* Jacq. Coll. 2, p. 109, t. 5 f. 2. Willd., sp. 2, p. 481" and indicated that a specimen was seen in the herbarium of Jacquin. A specimen once in the herbarium at Vienna is represented by Field Museum photograph no. 31205, which clearly shows such a label and the annotation *Ocotea jacquini* Mez. Two of the three leaves in the specimen photographed match in shape and venation the single leaf illustrated by Jacquin in his description of *Laurus martinicensis* Jacq. (Collect. **2:** 109. *t. 5, fig. 5.* 1788). The name *Oreodaphne jacquinii* Meissner is illegitimate since it was superfluous when published.

Ocotea jacquinii Mez, Jahrb. Bot. Gart. Berlin **5:** 422. 1889.

When Mez published *Ocotea jacquinii* (1889, p. 242; as *jacquini*), he cited the illegitimate *Oreodaphne jacquinii* and "*Laurus martinicensis* Jacq. herb. ap. Meissner l.c.," the latter being invalid as an unpublished herbarium name. *Ocotea jacquinii* Mez (corrected spelling) should be regarded as a new name and may be typified by the Aquart specimen in Herb. Jacquin as represented by Field Museum photograph no. 31205 ("*Laurus martinicensis* Jacq. Coll. 2, p. 105 t. 5 f. 2"). Although Mez indicated that Aquart specimens had been seen in herbaria at Copenhagen, Leningrad, and Vienna, none has been cited by recent authors including Bernardi (1967b).

Ocotea krugii (Mez) Howard, comb. nov.

Nectandra krugii Mez, Jahrb. Bot. Gart. Berlin **5:** 422. 1889.

In the original description Mez cited collections in three herbaria: three by Sintenis (*1984, 4004, 6450*) from Puerto Rico, and one by Imray (*214*) from Dominica. No lectotype has been selected, nor should one be before the existing collections are assembled.

Barneby and Allen have annotated sheets of *Nectandra krugii* as *N. globosa* (Aublet) Mez. The correct identity of that taxon has been discussed under *N. antillana* (q.v.). Material called *N. krugii* is distinct, but transfer to *Ocotea* is required.

Ocotea leucoxylon (Sw.) Mez, Jahrb. Bot. Gart. Berlin **5:** 329. 1889.

Credit for this combination has been variously attributed by recent writers to Gomez de la Maza, Bentham, de Lanessan, and Mez.

Bentham (1800, p. 158) reached the conclusion that species of *Oreodaphne* Nees & Martius should be transferred to *Ocotea* Aublet. Bentham mentioned *Oreodaphne leucoxylon* but not the actual combination *Ocotea leucoxylon.*

De Lanessan (Pl. Utiles Colon. Franç. 158. 1886) published the name "*Ocotea leucoxylon* Gr.," which can scarcely be termed a new transfer of the uncited *Oreodaphne leucoxylon* (Sw.) Griseb.

Gomez de la Maza (Dicc. Bot. Nombres Vulg. Cub. Puerto Riq. 12. 1889) is incorrectly cited as "1888" by Stehlé, Stehlé, and Quentin (1949, p. 120). The exact month and day of its publication are not known. The Mez reference, with a clearly stated basionym, was published August 15, 1889, and is accepted.

Imchanitzkaja (1974, p. 200) has designated as the lectotype "Ind. Occ., *Swartz, sine num.* (s)." Swartz consistently did not cite his own collections in the *Prodromus* and the *Flora.* He did cite the reference "Browne 214.2" in the *Prodromus* (p. 65) and repeated the reference but with a question mark in the *Flora* (**2:** 711). Fawcett and Rendle (Fl. Jam. **3:** 211) also cited Browne with a question mark. It is probable that the Swartz specimen referred to by Imchanitzkaja was collected in Jamaica.

Laurus martinicensis Jacq. Collect. **2:** 109. *t. 5, fig. 2.* 1788.

In the protologue of *Oreodaphne jacquinii* (q.v.), Meissner (1864, p. 114) included this reference and also cited an Aquart specimen from "Herb. Jacquin" bearing the same binomial. Mez (1889) seems to have considered the two items to be distinct, for he referred to the specimen in the protologue of his *Ocotea jacquinii* but included the bibliographic reference in the protologue of *Nectandra martinicensis* Mez (1889, p. 459). I believe that the illustration published by Jacquin and the specimen of Aquart represent one taxon. Therefore, *Laurus martinicensis* Jacq. is a synonym of *Ocotea jacquinii* Mez (not *O. martinicensis* Mez, q.v.).

Nectandra martinicensis Mez

Bernardi (1967b) has discussed this "species," but additional comment is necessary. Bernardi pointed out that Mez (1888) described this taxon in a paper that has been overlooked and that was not cited by Mez in his larger monograph published the following year (1889). In the 1888 paper Mez recognized *Nectandra sanguinea* Rottb. as a "spec. collect." and with it described "subspec. *Nectandra martinicensis* nov. spec." Mez cited the two collections "Sieber, Martinique No. 99; Sutton Hayes, Panama No. 400." In 1889 (p. 459) Mez cited the same collections, this time correcting the location of the Sieber collection to Trinidad and adding a reference to a de Rohr specimen without location. He indicated that these collections had been seen in eleven different herbaria. In the protologue Mez did not cite his 1888 paper but added four references, with the most important being "*Laurus martinicensis* Jacq. Coll. II, p. 109 t. 5 f. 2." Unanswered is the question of the correct bibliographic citation of *N. martinicensis* Mez in 1889. Is this a combination and new status as *N. martinicensis* (Mez) Mez, with the basionym the subspecies published in 1888, or is it a new combination, *N. martinicensis* (Jacq.) Mez, with the Jacquin reference as basionym? Bernardi chose to exclude the Jacquin synonym from the 1889 reference but did not comment on the possible change of rank involved. Bernardi also selected *Sieber 99* from Trinidad in the Geneva herbarium (G) as the lectotype. Further, Bernardi added three species as synonyms of his *N. martinicensis* Mez: *N. tabascensis* Lundell, *N. woodsoniana* Allen, and *N. matudai* Lundell. Thus, *N. martinicensis* Mez *sensu* Bernardi has a range of Mexico, Central America, Colombia, Trinidad, and Tobago, but not Martinique and doubtfully Montserrat.

Before the correct name for this taxon—considered in the genus *Ocotea*—is suggested, several points require clarification.

Bernardi was not aware of the photograph of the Aquart specimen from the Jacquin herbarium in Vienna (Field Museum photograph no. 31205) that permits the specimen to be recognized as *Ocotea jacquinii* Mez. Bernardi was therefore correct in excluding the Jacquin reference from the definition of *Nectandra martinicensis* Mez and *sensu* Bernardi.

Bernardi's choice of *Sieber 99* (G) as the lectotype must be discussed, since the Sieber collections are known to have unreliable label data. Reference has been made earlier to *Sieber, Fl. Trin. 175* (*Endlicheria sericea*—a species known from Guadeloupe but not from Trinidad). In the present case, the locality of *Sieber, Fl. Martinique 99* was changed by Mez to Trinidad. Brooks (1933, p. 222) indicated that he saw a specimen of *Sieber 99* at Kew, and he listed the species for the flora of Trinidad. More recently, Philcox (1978, p. 582) described the same flora but did not cite the Sieber collection. It should also be noted that Mez (1889, p. 377) cited "*Laurus martinicensis* Sieb. (nec Jacq.) hb. Mart. n. 99" in the synonymy of *Ocotea cernua* (Nees) Mez. It appears that "Sieber 99" is a collection that is mixed taxonomically as well as geographically.

The record from Panama of *Sutton Hayes 400,* cited originally by Mez (1888), was neither cited nor discussed by Allen (1948) in her treatment of the Lauraceae for the *Flora of Panama.* Earlier (1945, p. 381), she had considered *Nectandra martinicensis* to be a species found only in the West Indies; she compared it with *N. woodsoniana* Allen, which she was describing. Bernardi (1967b, p. 72) did see material of *Hayes 400* in five herbaria.

Bernardi (1967b, p. 72) questioned the origin of a Ryan collection without number but supposedly from Montserrat (C). He also cited other collections in the Copenhagen herbarium without collector or location. It is probable that one of these represents the material cited by Mez as having been collected by Rohr. Although Ryan did live and collect in Montserrat, he acquired material from other islands and from Rohr, who collected in Trinidad. Ryan sent his specimens to Vahl in Copenhagen. There is no sound evidence that *Nectandra martinicensis* Mez *sensu* Bernardi occurs in Montserrat, and recent intensive collecting on Montserrat has not revealed the species in that flora.

If the species recognized as *Nectandra martinicensis* Mez by Bernardi and by Philcox (1978) is to be considered as a species of *Ocotea,* a new name is required since Mez published *O. martinicensis* (q.v.) in 1889. The correct name should therefore be:

Ocotea tabascensis (Lundell) Howard, comb. nov.

Nectandra tabascensis Lundell, Lloydia **4:** 48. 1941. TYPE: Mexico, *Matuda 3299.*

Nectandra martinicensis Mez, Mitt. Bot. Vereins Kreis Freiburg **47, 48:** 421. 1888, not *Ocotea martinicensis* Mez (1889). LECTOTYPE: Trinidad, *Sieber 99* (G).

Nectandra woodsoniana Allen, Jour. Arnold Arb. **26:** 380. 1945. TYPE: Costa Rica, *Stork 3059* (FM).

Nectandra matudai Lundell, Wrightia **1/2:** 149. 1946. TYPE: Mexico, *Matuda 4522* (LL).

Ocotea martinicensis Mez, Jahrb. Bot. Gart. Berlin **5:** 270. 1889.

In the protologue Mez cited unnumbered collections of Ryan, Dancer, l'Herminier, and Ponthieu, as well as numbered collections of Imray and Hahn, from Jamaica, Montserrat, Guadeloupe, Dominica, and Martinique. No lectotype has been chosen from the specimens cited, which are deposited in ten different herbaria.

Adams (1972, p. 283) noted that the old records of this taxon from Jamaica based on collections attributed to Dancer and Wright have not been confirmed by recent collections.

Ocotea membranacea (Sw.) Howard, comb. nov.

Laurus membranacea Sw. Prodr. 65. 1788, Fl. Ind. Occ. **2:** 713. 1800.

Nectandra membranacea (Sw.) Griseb. Fl. Brit. W. Indian Is. 282. 1860.

Swartz cited material from Jamaica and Hispaniola. A lectotype (*Swartz s.n.* (S), from Jamaica) was designated by Bernardi (1967b, p. 76).

Most of the material from the Lesser Antilles identified as *Nectandra leucantha* and *N. leucantha* var. *rodiaei* (Schomb.) Griseb. belongs here.

The fruits of this taxon are frequently infected by galls or fungi and become enlarged, rugose, and spongy; they are bright red when fresh. The normal fruits are subglobose, black, and shiny.

Ocotea sanguinea (Rolander ex Rottb.) J. S. Presl

Nectandra sanguinea Rolander ex Rottb. Pl. Surinam. Rar. 11. 1776.

Bernardi (1967a, p. 56) illustrated the holotype specimen (SBT). Many authors have considered this specimen to be lost. I have not been able to verify a bibliographic citation for this combination. The brief entry in *Index Kewensis* is "J. S. Presl, Rostl. ii, 60," and Kostermans (1964) suggested "Presl, Priroz. Rostlinar **2:** 60. 1825." Allen (1945, p. 364) dated the publication as 1846 but could not find the reference and apparently did not discover it in the three volumes of "Prirez. Rostlin." Presumably the binomial is a transfer of *Nectandra sanguinea* to *Ocotea*.

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